Physics of the Earth and Planetary Interiors, 48 (1987) 389–390
Elsevier Science Publishers B.V., Amsterdam – Printed in The Netherlands

CONTENTS VOLUME 48, 1987

Letter Section

Signals of degeneration of the sub-crustal part of the Indian lithosphere since the break-up of Gondwanaland
O.P. Pandey and J.G. Negi (Hyderbad, A.P., India) 1

Centroid-moment tensor solutions for October–December 1986
A.M. Dziewonski, G. Ekström, J.H. Woodhouse and G. Zwart (Cambridge, MA, U.S.A.) 5

Research Papers

Global seismicity of 1979: centroid-moment tensor solutions for 524 earthquakes
A.M. Dziewonski, G. Ekström, J.E. Franzen and J.H. Woodhouse (Cambridge, MA, U.S.A.) 18

Microearthquakes and tectonics around an outer rise: the Zenisu ridge, Japan
T. Eguchi, M. Ukawa and Y. Fujinawa (Ibaraki, Japan) 47

Modeling the Pnl waveforms of the Fairview Peak-Dixie Valley, Nevada, U.S.A. earthquake sequence (1954–1959)
D.I. Doser (El Paso, TX, U.S.A.) 64

The central New Britain earthquake of May 10, 1985: tensional stresses in the frontal arc
J. Mori, C. McKee (Rabaul, Papua New Guinea) and H. Letz (Port Moresby, Papua New Guinea) 73

An alternative method of calculating finite plate rotations
R. Thompson and M.J. Prentice (Edinburgh, Gt. Britain) 79

The secular variation of the geomagnetic field and the shape of the Earth
B. Alessandrini, G.M. Papi, G. de Franceschi and G.P. Gregori (Rome, Italy) 84

Evidence for ocean–continent crust boundary beneath the abyssal plain of the East Central Atlantic
K.M. Storetvedt (Newfoundland, Canada) 115

Seasat gravity undulations in the central Indian Ocean
A. Cazenave, M. Monnereau (Toulouse, France) and D. Gibert (Brest, France) 130

Geomagnetic induction soundings over the Michigan Basin
C. Flores and R.C. Bailey (Toronto, Ont., Canada) 142

A comparison of heat transfer laws for mantle convection at very high Rayleigh numbers
P. Olson (Baltimore, MD, U.S.A.) 153

Anisotropy of magnetic susceptibility of some metamorphic minerals
G. Borradaile, W. Keeler, C. Alford and P. Sarvas (Thunder Bay, Ont., Canada) 161

Shocked minerals at the K/T boundary: explosive volcanism as a source
A. Rice (Denver, CO, U.S.A.) 167

Book Reviews

Intrinsic Geodesy
C.C. Tscherning 175

The Physics of the Earth's Core
D. Gubbins 176

An Introduction to the Theory of Seismology
A. Hanyga 177

Guide for Authors 178

Special Issue: Geomagnetic Field Modelling and IGRF Revision
Guest Editors: F.S. Barker and D.R. Barraclough

Foreword iv

Research Papers

Optimum use of satellite intensity and vector data in modelling the main geomagnetic field
F.J. Lowes and J.E. Martin (Newcastle-upon-Tyne, Gt. Britain) 183
Some effects of quiet geomagnetic field changes upon values used for main field modeling
W.H. Campbell (Denver, CO, U.S.A.) 193
Estimating cosmic ray vertical cutoff rigidities as a function of the McIlwain *L*-parameter for different epochs of the geomagnetic field
M.A. Shea, D.F. Smart (Bedford, MA, U.S.A.) and L.C. Gentile (Boston, MA, U.S.A.) 200
Spherical harmonic modeling of the geomagnetic field using the fast Fourier transform
J.M. Quinn and G.A. Barrick (Bay St. Louis, MS, U.S.A.) 206
A new method for analysing geomagnetic impulses
K.A. Whaler (Leeds, Gt. Britain) 221
Geomagnetic field modeling incorporating constraints from frozen-flux electromagnetism
E.R. Benton (Boulder, CO, U.S.A.), R.H. Estes (Lanham, MD, U.S.A.) and R.A. Langel (Greenbelt, MD, U.S.A.) 241
On the interpretation of the geomagnetic energy spectrum
E.R. Benton (Boulder, CO, U.S.A.) and L.R. Alldredge (Denver, CO, U.S.A.) 265
International Geomagnetic Reference Field: the fourth generation
D.R. Barraclough (Edinburgh, Gt. Britain) 279
Derivation of proposed International Geomagnetic Reference Field models for 1945, 1950, 1955 and 1960
R.A. Langel (Greenbelt, MD, U.S.A.) and R.H. Estes (Seabrook, MD, U.S.A.) 293
BGS candidate models for the 1985 revision of the International Geomagnetic Reference Field
D.R. Barraclough and D.J. Kerridge (Edinburgh, Gt. Britain) 306
IGRF candidates for 1980 and 1985
J.M. Quinn (Bay St. Louis, MS, U.S.A.), D.J. Kerridge and D.R. Barraclough (Edinburgh, Gt. Britain) 313
Models of secular geomagnetic variation for 1980–1990
V.P. Golovkov and G.I. Kolomiitseva (Moscow, U.S.S.R.) 320
A model of geomagnetic secular variation for 1980–1983
N.W. Peddie and A.K. Zunde (Denver, CO, U.S.A.) 324
Assessment of models proposed for the 1985 revision of the International Geomagnetic Reference Field
N.W. Peddie and A.K. Zunde (Denver, CO, U.S.A.) 330
Evaluation of IGRF candidate models over the Australian region
D.E. Winch (Sydney, N.S.W., Australia), A.J. McEwin and C.E. Barton (Canberra, A.C.T., Australia) 338
Evaluations of candidate DGRF 1945, 1950, 1955 and 1960 models
W.-J. Wu, T.X. Bai and C.-H. Feng (Beijing, People's Republic of China) 344
Testing recent geomagnetic field models via magnetic flux conservation at the core–mantle boundary
E.R. Benton (Boulder, CO, U.S.A.) and C.V. Voorhies (Greenbelt, MD, U.S.A.) 350
On IGRF models for 1945–1985
N.P. Ben'kova, T.N. Bondar', V.P. Golovkov and G.I. Kolomiitseva (Moscow, U.S.S.R.) 358
Evaluation of the 1985–1990 IGRF secular variation candidates
J.C. Cain (Denver, CO, U.S.A.) and C. Kluth (Golden, CO, U.S.A.) 362
Considerations and proposal for a best utilization of IGRF over areas including a geomagnetic observatory
F. Molina and A. de Santis (Rome, Italy) 379
The geomagnetic jerk of 1969 and the DGRFs
D. Thompson (Golden, CO, U.S.A.) and J.C. Cain (Denver, CO, U.S.A.) 386

Contents of Volume 48 389